

A Report Prepared for

Van Waters & Rogers Inc.  
6100 Carillon Point  
Kirkland, Washington 98033

**MONITORING WELL  
SAMPLING AND ANALYSIS PLAN  
BOISE TOWNE SQUARE MALL ORDER  
BOISE, IDAHO**

**HLA Project No. 20786 0061**

by

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June 15, 1993

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outlined in this SAP are described in the Quality Assurance Project Plan (QAPP)  
(HLA, 1992b).

DRAFT

## **2.0 BACKGROUND**

### **2.1 Boise Towne Square Mall Area**

From approximately 1973 to 1983, VW&R operated a chemical distribution facility from a portion of a warehouse located on Friedly Drive, Boise, Idaho. A 6,000-gallon aboveground storage tank (AST) used to store Perc was located in an outdoor storage area at the eastern end of the former warehouse. Today, a Pier 1 imports store occupies the general area of the former VW&R facility. The current address of the Pier 1 imports store is 140 Milwaukee Avenue, Boise, Idaho. The general location of the Pier 1 imports store is referred to herein as the "140 Milwaukee Avenue Area (Plate 1)."

The Boise Towne Square Mall area (Site) includes the 140 Milwaukee Avenue Area and the Boise Towne Square Mall property and is generally bordered by Milwaukee Avenue and a theater to the west, the mall perimeter road to the north and east, and the Union Pacific Railroad and Franklin Road to the south (Plate 1). The Site is more completely described in the Boise Mall Order.

### **2.2 Previous Investigations**

Beginning in 1987, the Site and adjacent areas were developed as retail and light commercial facilities. As part of this development, several environmental investigations were performed in the Site vicinity. A summary of these investigations is presented in the Boise Towne Square Mall Supplemental Investigation and Final Remediation Work Plan (HLA, 1992a); the general findings of these investigations are discussed below.

Perc has been detected in soil and groundwater samples since the Site and adjacent areas were developed. For example, Perc was detected in the soil and groundwater samples collected during the development of the Westpark Center (the property bounded by Benjamin Lane, Milwaukee Street, and Emerald Street). In

January 1989, Westpark and the Department agreed to a Consent Order that incorporated a cleanup plan. This plan proposed the installation of a groundwater pump and treat system and a cleanup level of 10 micrograms per liter ( $\mu\text{g/l}$ ). Groundwater treatment has been intermittently underway since March 1990.

In 1991, ten monitoring wells were installed and sampled at the Site. Results indicated that Perc was present in samples collected from these wells at concentrations ranging from nondetectable (ND) to 7,370  $\mu\text{g/l}$  (*Chen-Northern, Inc., 1991; Conde, 1991; GZA, 1991*).

In late 1991, HLA conducted a soil gas survey and drilled and sampled four soil borings to assess the areal extent of Perc in the immediate vicinity of the 140 Milwaukee Avenue Area and to confirm the presence and concentration of chemical constituents detected during the soil gas survey. Perc was detected in 25 of 34 of the soil gas samples at concentrations ranging from 0.11 to 5,500  $\mu\text{g/l}$  and in all soil samples at concentrations ranging from 0.014 to 26,000 milligrams per kilogram ( $\text{mg/kg}$ ).

Groundwater samples from two of the Department wells (MW-1 and MW-2 installed as part of the 1991 Chen-Northern investigation) were also collected. Results indicated Perc at concentrations of 5,100 and 6.1  $\mu\text{g/l}$ , respectively (*HLA, 1991a, b*).

In June 1992, six of the existing monitoring wells at the Site were sampled. Results confirmed the presence of Perc in three of the samples at concentrations ranging from 400 to 2,500  $\mu\text{g/l}$  (*IHI, 1992*).

To further evaluate the extent of Perc compounds in soil gas, evaluate other potential sources, and qualitatively evaluate the extent of Perc compounds in the groundwater, HLA supervised a soil gas survey at the Site in November 1992. Perc was detected in 28 of the 31 sampling locations at concentrations ranging from 0.16 to

1,460  $\mu\text{g/l}$ . No anomalous soil gas concentrations were detected that could identify additional source areas (HLA, 1993a). Perc concentrations detected during the September 1991 and November 1992 soil gas surveys and the plume location are shown on Plate 2.

Currently, VW&R is operating a vapor extraction system in the 140 Milwaukee Avenue Area.

### 2.3 Geophysical Seismic Reflection Pilot Study

In April 1993, VW&R completed a geophysical seismic reflection pilot study at the Site. The results of the geophysical pilot study were presented in the *Geophysical Sampling and Analysis Plan, Boise Mall Order, Boise, Idaho* (HLA, 1993b). The seismic reflection pilot study was conducted at three locations (two at the Mall and one at 1941 Five Mile Road).

Data from test lines at the Mall indicate that strong reflecting horizons are present at depths generally below 160 feet. A strong reflector is indicative of the presence of a low permeability clay layer, whereas a weak reflector is indicative of a more subtle change in lithology such as from a coarse sand to a fine sand. Data from the test line at 1941 Five Mile indicate a weak reflector at an approximate depth of 100 feet and strong reflections beginning at approximately 150 feet.

### 2.4 Pilot Boring Program

#### 2.4.1 Field Program and Analytical Results

To gather data to assist in the characterization of hydrogeologic conditions at the Site and to provide information on the vertical distribution of Perc, VW&R conducted a pilot boring investigation. The scope of work for the pilot boring program was

originally presented in the *Supplemental Pilot Boring Sampling and Analysis Plan, Boise Towne Square Mall, Boise, Idaho* (Pilot Boring SAP), dated February 9, 1993 (HLA, 1993a), and consisted of drilling two pilot borings, collecting groundwater samples from the borings for vertical chemical profiling, completing the borings as groundwater monitoring wells, collecting and analyzing groundwater samples from the wells, and conducting a geophysical pilot study (described above).

The results of the pilot borings program were presented in a letter dated May 11, 1993 (HLA, 1993c). Two borings were drilled: MW-1 is located in the parking lot north of the Olive Garden restaurant and MW-2 is in the parking lot approximately 73 feet northeast of the State Well MW-1, north of the 140 Milwaukee Avenue area (Plate 2). As the borings were advanced, groundwater samples (grab groundwater samples) were collected using a stainless steel bailer lowered through the casing to the bottom of the boring. Grab groundwater samples were collected from the boring for Well MW-1 at depths of 58 and 78 feet. Grab groundwater samples were collected from the boring for Well MW-2 at depths of 58 and 98 feet.

The analytical results for the pilot boring grab groundwater samples and samples from the completed wells are presented in Table 1. Analytical results for grab samples collected from the boring for MW-1 indicate that Perc was detected in the 58- and 78-foot samples at concentrations of 650 and 1  $\mu\text{g/l}$ , respectively. The sample collected from the completed Well MW-1 did not contain Perc. Grab samples collected from the boring for MW-2 indicate that Perc was detected at a concentration of 2.1  $\mu\text{g/l}$  in the 58-foot sample and was not detected in the 98-foot sample nor in the sample collected from the completed well.

These data and analytical data from previous groundwater sampling activities at



the Mall indicate that the Perc is limited to the shallow portion of the aquifer. Although a shallow, continuous clay or low permeability layer beneath the Mall was not indicated by the geophysical data or lithologic logging of the pilot borings, migration of Perc to the deeper portion of the aquifer does not appear to have occurred. Because the chemical data and geologic data indicate that Perc is limited to the shallow portion of the aquifer, it appears that vertical (downward) groundwater flow within the aquifer is not significant. Migration of Perc to the deeper portions of the aquifer would likely require a downward hydraulic gradient, such as that generated during pumping of a deep well.

#### **2.4.2 Quality Assurance/Quality Control**

Data validation was performed on field and laboratory quality control (QC) samples using procedures described in the QAPP; the results are presented in Tables 1 and 2 and are discussed below.

Field QC samples consisted of one duplicate, two equipment, and three trip blanks. The sample and duplicate results were below detection limits. No compounds were detected in one equipment blank. The second equipment blank had 0.7 µg/l toluene, 2.8 µg/l 1,1,1-TCA, and 0.3 µg/l PCE. Toluene was also detected in the three trip blanks at 0.5 to 1.0 µg/l. Since toluene was detected in three trip blanks and was not detected in the groundwater samples, these detections are likely due to laboratory contaminants.

Laboratory QC samples consisted of method blanks, matrix spikes, matrix spike duplicates, surrogate spikes, and surrogate spike duplicates (Table 2). The method blanks were below detection limits, indicating no laboratory system bias. The matrix spike and duplicate recoveries were within control limits indicating good accuracy and

precision, respectively. The surrogate spike and duplicate recoveries were within control limits, indicating proper chemical identification and laboratory quality control. Table 2 shows that the overall completeness is 98 percent, which is above the goal of 85 percent specified in the QAPP (HLA, 1992b).

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### 3.0 SCOPE OF WORK

#### 3.1 Boring and Well Installation

To monitor chemical concentrations in groundwater along the axis of the Perc plume at the Site and offsite and upgradient of the 140 Milwaukee Avenue area, four soil borings will be drilled and completed as wells at the locations shown on Plate 2. Three borings will be drilled onsite, one boring will be drilled offsite. Initially the three onsite wells will be used for monitoring purposes, however, they will be constructed so that they may be converted to extraction wells in the future, if appropriate. The upgradient offsite well is intended for monitoring purposes only. Field activities will be conducted under the existing Job Safety Plan. If field conditions encountered during drilling prohibit use of the methods described below, the Department will be contacted and alternatives discussed.

The three onsite borings will be drilled using air casing hammer methods. The upgradient offsite boring will be drilled using a hollow-stem auger drill rig. Drilling and well installation will be conducted under the supervision of HLA and/or VW&R representatives and the borings will be lithologically logged by an HLA geologist and detailed field logs prepared. Soil cutting samples will be collected at 5-foot intervals and/or at each observed change in lithology and will be classified using ASTM D 2488-90, which is based on the Unified Soil Classification System. An Idaho-registered professional geologist will review the field logs.

The vertical distribution of Perc will be assessed by collecting groundwater samples in the three onsite borings. Chemical data from the borings will be used to determine target depths for well completion. Target zones for collection of groundwater samples in the three onsite borings are anticipated to be at approximately 10-foot intervals in the upper 70 feet of the boring, and at 20-foot intervals thereafter to the

total depth of the boring. Groundwater samples will also be collected at significant changes in lithology, where possible.

In-situ groundwater samples will be collected during drilling using a Hydropunch II sampler. Drilling will proceed to slightly above the target zone, the sampler will be driven into the zone, and the sample inlet will be opened, allowing groundwater to flow into the sample chamber. If lithologic conditions (e.g., the presence of gravel) prevent collection of groundwater samples with the Hydropunch sampler, samples will be collected by lowering a stainless steel bailer down the drill pipe to the bottom of the boring. The sampler or bailer will then be brought to the surface and the sample poured from the sample chamber into a laboratory-provided volatile organic analysis (VOA) vial.

Groundwater samples will be analyzed on an expedited 24-hour turnaround basis. When groundwater samples with Perc concentrations below 5  $\mu\text{g/l}$  are obtained, drilling will cease. The borings will be backfilled to the depth at which the first groundwater sample with Perc concentrations below 5  $\mu\text{g/l}$  was obtained. If no groundwater samples contain Perc below 5  $\mu\text{g/l}$ , the borings will be drilled to the first encountered lower permeability unit or to a maximum depth of approximately 160 feet. The offsite, upgradient boring will be drilled approximately 15 feet below the groundwater table (approximately 30 feet bgs).

The three onsite wells will be constructed using a minimum 6-inch-diameter wire-wrapped stainless steel casing and screen. The upgradient well will be constructed of 2-inch-diameter Schedule 40 PVC casing and screen. We anticipate that the well will be screened over the interval in which Perc is detected. A filter pack will be placed adjacent to and slightly above the screened interval.

After well completion, the wells will be allowed to set for at least 24 hours and then developed. The wells will be developed by a combination of swabbing, surging, bailing, and/or pumping. Groundwater samples will then be collected from the wells in accordance with procedures described in the QAPP (HLA, 1992b).

All drilling fluids, cuttings, and well development fluids will be contained and temporarily stored onsite or at the VW&R field office pending the results of chemical analyses. Disposal methods will depend on the analytical results, as discussed in the QAPP (HLA, 1992b).

### 3.2 Laboratory Analytical Program

The Hydropunch groundwater samples will be transported under chain of custody to Alchem Laboratory, Boise, Idaho, for expedited 24-hour analysis for halogenated VOCs using EPA Test Method 8010. The groundwater samples collected from the completed wells will be transported under chain of custody to ATI and analyzed for halogenated and aromatic VOCs using EPA Test Methods 8010 and 8020.

#### 4.0 SCHEDULE

Field work is scheduled to begin within 14 calendar days of Department approval of this SAP. Actual drilling dates may vary because of the availability of drilling subcontractors, access negotiations, and/or permitting issues. Following completion of all field work and receipt of final analytical data, the results will be submitted to the Department.

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## 5.0 REFERENCES

- Chen-Northern, Inc., 1991. Letter to Rob Howarth, Division of Environmental Quality, Idaho Department of Health and Welfare. July 23.
- Conde, D.M., 1991. State of Idaho Office of the Attorney General. Letter to Wayne Grotheer, Van Waters & Rogers Inc. July 18.
- GZA GeoEnvironmental, Inc. (GZA), 1991. *Environmental Site Evaluation, Boise Towne Square Mall, Boise, Idaho.* August.
- Harding Lawson Associates (HLA), 1991a. *Soil Gas and Groundwater Investigation, Former VW&R Facility, Boise, Idaho.* October 25.
- \_\_\_\_\_, 1991b. *Soil Boring Investigation, Former VW&R Facility, Boise, Idaho.* December 17.
- \_\_\_\_\_, 1992a. *Exhibit 3, Work Plan, Boise Towne Square Mall Supplemental Investigation and Final Remediation, Boise, Idaho.* September 8.
- \_\_\_\_\_, 1992b. *Quality Assurance Project Plan. Former VW&R Facility, Boise, Idaho.* November 2.
- \_\_\_\_\_, 1993a. *Supplemental Pilot Boring Sampling and Analysis Plan, Boise Towne Square Mall, Boise, Idaho.* February 9.
- \_\_\_\_\_, 1993b. *Geophysical Sampling and Analysis Plan, Boise Mall Order, Boise, Idaho.* Letter to Ron Lane, Idaho Department of Health and Welfare, Division of Environmental Quality. May 6.
- \_\_\_\_\_, 1993c. *Pilot Boring Program Summary, Boise Towne Square Mall, Boise, Idaho.* Letter to Wayne Grotheer, Van Waters & Rogers Inc. May 11.
- Industrial Hygiene Incorporated Environmental (IHI), 1992. *Monitoring Well Sampling, Boise Towne Square Mall, Boise, Idaho.* June.

TABLES

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Table 1. Pilot Boring Program Groundwater Analytical Results  
Monitoring Well Sampling and Analysis Plan  
Boise Towne Square Mall  
Boise, Idaho

Sample Number	Sample Date	Location	Depth Collected (ft)	Sample Type	Perc Concentration (ug/l)	Other Detected Analytes (ug/l)	Comments
93033101	3/31/93	MW-1-boring	58	Grab	650	ND	
93033102	3/31/93	Equip. Blank	NA	QC	0.3	Toluene - 0.7 1,1,1 TCA - 2.8	Not detected in samples
93033103	3/31/93	Trip Blank	NA	QC	<0.2	Toluene - 0.5	Not detected in samples
93033104	3/31/93	MW-1-boring	78	Grab	1	ND	
93041501	4/15/93	MW-2-boring	58	Grab	2.1	ND	
93041502	4/15/93	MW-2-boring	98	Grab	<0.2	ND	
93041601	4/16/01	Trip Blank	NA	QC	<0.2	Toluene - 1.0	Not detected in samples
93042101	4/21/93	MW-1-well	128	Well	<0.2	ND	
93042102	4/21/93	MW-1-well (dup)	128	Well/QC	<0.2	ND	
93042103	4/21/93	Trip Blank	NA	QC	<0.2	Toluene - 1.0	Not detected in samples
93042104	4/21/93	Equip. Blank	NA	QC	<0.2	ND	
93042201	4/22/93	MW-2-well	137	Well	<0.2	ND	

ND = Not Detected

NA = Not Applicable

ug/l = micrograms per liter

Note: Toluene detected in trip blanks is likely a laboratory contaminant.

Table 2. Quality Assurance/Quality Control Data Summary  
Monitoring Well Sampling and Analysis Plan  
Boise Towne Square Mall  
Boise, Idaho

Quality Control Sample	Acceptance Criterion <sup>1</sup>	Number of Analyses	Number of Analyses Within Acceptance Criterion	Percent of Analyses Within Acceptance
<b><u>FIELD</u></b>				
Field blank	No compounds detected	66	63	95%
Trip blank	No compounds detected	99	96	97%
Field duplicate	≤ 100% RPD	--	--	--
<b><u>LABORATORY</u></b>				
Method Blank	No compounds detected	99	99	100%
Matrix Spike	60 - 150%	30	30	100%
Matrix Spike duplicate	60 - 150%	15	15	100%
Surrogate Spike recovery	70 - 130%	12	12	100%
Surrogate Spike recovery duplicate	70 - 130%	6	6	100%
Overall Completeness: $\frac{321}{327} \times 100 = 98\%$				

<sup>1</sup> Acceptance criterion specified in the QAPP (HLA, 1992b)

PLATES

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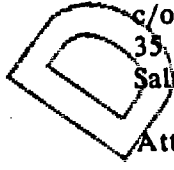
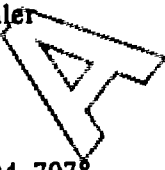

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SAMPLING AND ANALYSIS PLAN  
BOISE TOWNE SQUARE MALL ORDER  
BOISE, IDAHO  
June 15, 1993**

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	Attention: Mr. Mike Gaudette	
4 copies:	Preston Thorgrimson Shidler Gates & Ellis Attorneys at Law 5400 Columbia Center 701 Fifth Avenue Seattle, Washington 98104-7078	3-6
	Attention: Mr. Scott Vokey	
3 copies:	Idaho Department of Health and Welfare Division of Environmental Quality 1410 North Hilton Boise, Idaho 83706-1253	7-9
	Attention: Ron Lane	
2 copies:	Boise Mall Development Company c/o Price Development Company 35 Century Parkway Salt Lake City, Utah 84115	10-11
	Attention: Rex Frazier, President	



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Attention: John Lerma

7 copies: Harding Lawson Associates

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QUALITY CONTROL REVIEWER

  
\_\_\_\_\_  
Mark B. Hersh  
Associate Hydrogeologist



IDAHO DEPARTMENT  
OF HEALTH AND WELFARE

DIVISION OF  
ENVIRONMENTAL QUALITY

1420 North Hilton, Boise, ID 83706-1260, (208) 334-0550

Cecil D. Andrus, Governor

July 9, 1993

Mr. Michael Gaudette  
Van Waters and Rogers  
2723 S. Cole Road  
Boise, Idaho 83709

RE: Monitoring Well Sampling and Analysis Plan (SAP) for the Boise  
Towne Square Mall.

Dear Mr. Gaudette:

This letter is to confirm our conversations during our July 1, 1993 meeting regarding (among other things) approval of the monitoring well SAP for the Boise Towne Square Mall.

Conditional approval for the monitoring well SAP will be granted if the supporting calculations used to generate the theoretical capture zones around the proposed monitoring/extraction wells are submitted to the Department.

Additionally, the Department, at this time, is granting approval for only the installation of the upgradient monitoring well and the one monitoring/extraction well at the Pier One Imports source area as depicted on Plate #2. The rationale for this being that an aquifer test needs to be conducted so that site specific data can be generated, which will allow for optimal placement of the other (proposed) monitoring/extraction wells.

If you have any questions regarding these matters, please feel free to contact either myself, or Rob Howarth, at 334-0550.

Sincerely,

Ron Lane  
Remediation Supervisor

RL:cm

cc: Rob Howarth  
Doug Conde



RECEIVED

JUL 21 1993

DIVISION OF  
ENVIRONMENTAL QUALITY  
SWIRO

July 20, 1993

20786 0061

Mr. Ron Lane  
Idaho Department of Health & Welfare  
Division of Environmental Quality  
1410 North Hilton  
Boise, Idaho 83706-1253

Dear Mr. Lane:

Please find enclosed three copies of the *Monitoring Well Sampling and Analysis Plan, Boise Towne Square Mall Order, Boise, Idaho*, dated July 20, 1993.

If you have any questions, please call.

Very truly yours,

HARDING LAWSON ASSOCIATES

*S. Michelle Beckman*

S. Michelle Beckman  
Senior Geologist

cc: Mr. Wayne Grotheer (1 copy)  
Mr. Mike Gaudette (1 copy)  
Mr. Scott Vokey (4 copies)  
Mr. Rex Frazier (2 copies)  
Ms. Susan Zachos (2 copies)  
Mr. John Lerma (2 copies)

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1420 North Hilton, Boise, ID 83706-1260, (208) 334-0550

Cecil D. Andrus, Governor

July 29, 1993

Mike Gaudette  
Senior Project Manager  
Van Waters & Rogers, Inc.  
2723 S. Cole Road  
Boise, ID 38709

RE: Monitoring Well Sampling and Analysis Plan (SAP) for the Boise Towne Square Mall.

Dear Mr. Gaudette:

The Division of Environmental Quality/Southwest Idaho Regional Office (DEQ/SWIRO) has received the (revised) above-referenced plan and has determined it to be complete.

The plan adequately addresses the concerns and issues relating to the placement of 2 future monitoring/extraction wells. As a result, work can proceed with the installation of the one background well, and the one monitoring/extraction well, as depicted on Plate #2 of the plan. It is recommended, however, that a minimum of 72 hours lapse after well development has been determined to be complete, before purging and sampling of the wells are conducted.

If you have any questions or concerns, please give me a call at 334-0550.

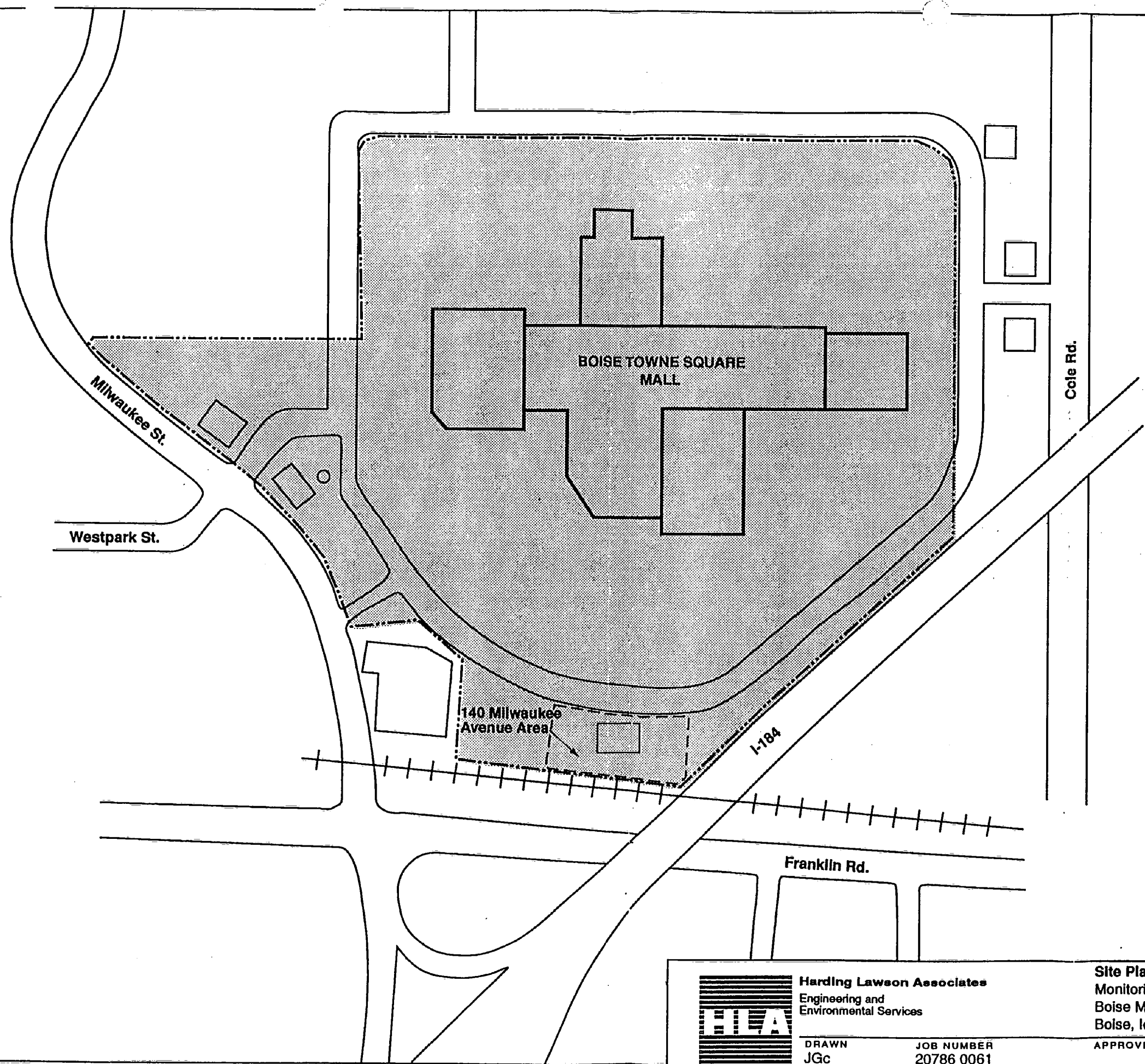
Sincerely,

Ron Lane  
Remediation Supervisor

RL:cm

cc: Doug Conde  
Rob Howarth  
Larry Koenig





**EXPLANATION**

- Approximate Site Boundary
- Approximate 140 Milwaukee Avenue Area Boundary

**DRAFT**

0 300 600  
Approximate Scale in Feet

N



**Harding Lawson Associates**  
Engineering and  
Environmental Services

DRAWN  
JGc

JOB NUMBER  
20786 0061

**Site Plan**  
Monitoring Well Sampling and Analysis Plan  
Boise Mall Order  
Boise, Idaho

APPROVED

DATE  
6/93

REVISED DATE

0527LZ

PLATE  
**1**

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JUN 22 1990

March 21, 1990

ENVIRONMENTAL QUALITY  
BOISE FIELD OFFICE

MEMORANDUM

TO: John Anderson - Nampa Meridian Irrigation District  
Gary Himes - White Leasure Company  
Paul Jehn - IDHW Bureau of Water Quality  
Robert Wilkosz - IDHW Bureau of Air Quality

FROM: Brad Harr *Brad Harr*

RE: Westpark Air Stripper Start Up

The Westpark air stripper has been operating for seven days. Water samples were collected for five consecutive days after start up, March 13 through 17. The laboratory turn-around time on the samples has been longer than we expected. We received verbal preliminary results on the five effluent samples 1 day after the samples were submitted, however we did not receive any of the preliminary results for the input water until March 20, 1990. Air stripper flows were adjusted on March 13, 14, and 15 to achieve the 10 ppb discharge requirement. The preliminary lab results for the effluent were used in making the adjustments without knowing the actual input concentrations (we assumed that the pumping well concentrations would be approximately their historical average). The preliminary laboratory results for PCE are summarized in the attached table along with the daily operating parameters.

The preliminary results for well WP2 show the PCE concentration slightly higher than what SRM expected. When well WP3 was phased into operation with WP2, the combined concentration of 1500 ppb resulted in discharges greater than 10 ppb. The air stripper efficiency was less than 100% due to the cool spring weather. Well WP3 was turned off after the preliminary sample results were made available to SRM.

The system is currently operating with well WP1 at 68 gpm and WP2 at 102 gpm. The discharge concentration has been holding right at 10 ppb PCE for the last three days it was sampled (10.8, 10.2, and 10.0 ppb). The next system sampling is scheduled for Friday, March 23. If the weather continues to warm up, we expect the discharge concentration to decrease. If the discharge concentration from March 23, 1990 remains near 10 ppb (i.e. 9 to 11 ppb), we will decrease system flows slightly and try to maintain discharge at  $\approx$ 8 ppb PCE.

BH5/1312.1

Memorandum  
March 21, 1990  
Page 2

TCE has not been observed in any of the discharge samples. The laboratory has observed TCE in the input samples, but the samples are being re-run in order to quantify the low concentrations and no TCE results are available at this time.

If you have any questions or need further information, please call me at 345-3667.

Attach.

cc: Ed Handl  
Conley Ward

BH5/1312.2

WESTPARK AIR STRIPPER  
SUMMARY START UP INFORMATION \*  
(PCE concentrations in ppb)

<u>Date</u>	<u>Adjustments</u>	<u>Stripper Input</u>								<u>Stripper Discharge</u>	
		<u>WP1</u>		<u>WP2</u>		<u>WP3</u>		<u>Combined</u>		<u>gpm</u>	<u>PCE</u>
		<u>gpm</u>	<u>PCE</u>	<u>gpm</u>	<u>PCE</u>	<u>gpm</u>	<u>PCE</u>	<u>gpm</u>	<u>PCE</u>		
3/13/90	yes	0	-	103	850	0	-	103	850	103	4.9
3/14/90	yes	0	-	101	1080	63	1700	164	1500	176	23.0
3/15/90	yes, before adj.	0	-	106	1000	94	-	200	1500	209	12-18
	after adj.	70	800	102	1000	0	-	172	1100	≈172*	10.8
3/16/90	no	68	920	101	924	0	-	169	1010	169	10.2
3/17/90	no	68	980	102	890	0	-	170	1070	168	10.0

\* Laboratory results are preliminary and verbal at this time.

\*\* Estimated, meter was not checked